

I claim as my invention:

1 1. A sealable fastener for insertion into a fastener opening
2 in a receiving structure, the sealable fastener comprising:

3 a fastener shank comprising a shank longitudinal axis and a
4 shank first end terminating at and integrally joined to a fastener
5 head having a fastener first end wall and a shank second end
6 terminating at a fastener second end wall, a shank side wall
7 between said fastener head and said fastener second end wall and
8 having a circumferential channel in said shank side wall extending
9 to said fastener head and opening radially outward from said shank
10 longitudinal axis, said shank side wall additionally having a
11 fastener thread between said circumferential channel and said
12 fastener second end wall;

13 and a sealant delivery passageway having a passageway entry
14 port in said fastener head and a passageway exit port opening into
15 said circumferential channel and extending from said passageway
16 entry port to said passageway exit port;

17 such that a flowable sealant is injectable into said delivery
18 passageway entry port, such that the sealant flows through said
19 sealant delivery passageway and exits through said delivery
20 passageway exit port and flows into and around said circumferential
21 channel, creating a circumferential seal between said fastener
22 shank and the fastener opening in the receiving structure.

1 2. The sealable fastener of claim 1, wherein said shank side
2 wall comprises a plurality of circumferential channels.

1 3. The sealable fastener of claim 1, wherein said fastener
2 is one of a bolt and a screw.

1 4. The sealable fastener of claim 1, wherein said sealant
2 delivery passageway is a radial notch in said fastener head.

1 5. A sealable fastener for insertion into a fastener opening
2 in a receiving structure, the sealable fastener comprising:

3 a fastener shank comprising a shank longitudinal axis and a
4 shank first end terminating at and integrally joined to a fastener
5 head having a fastener first end wall and a shank second end
6 terminating at a fastener second end wall, a shank side wall
7 between said fastener head and said fastener second end wall, said
8 shank side wall comprising a first circumferential channel in said
9 shank side wall extending to said fastener head and opening
10 radially outward from said shank longitudinal axis, a fastener
11 thread between said circumferential channel and said fastener
12 second end wall, and a second circumferential channel in said shank
13 side wall between said first circumferential channel and said
14 fastener second end wall;

15 and a sealant delivery passageway having a first passageway
16 entry port in said fastener head and having a first passageway exit
17 port opening into said first circumferential channel and a second
18 passageway exit port opening into said second circumferential
19 channel and extending from said first passageway entry port through
20 said fastener head to said first passageway exit port and to said
21 second passageway exit port;

22 such that flowable sealant injected into said passageway entry
23 port flows through said sealant delivery passageway, out of said
24 first passageway exit port and into and around said first
25 circumferential channel and out of said second passageway exit port
26 and into and around said second circumferential channel, creating

1 circumferential seals between said fastener shank and the fastener
2 opening in the receiving structure.

1 6. The sealable fastener of claim 5, wherein said sealant
2 delivery passageway is a radial notch in said fastener head.

1 7. A sealable fastener and fastener receiving structure,
2 comprising:

3 a fastener receiving structure having a fastener opening with
4 a fastener opening longitudinal axis and a fastener opening
5 interior surface substantially parallel with said fastener opening
6 longitudinal axis;

7 a sealable fastener comprising a fastener shank extending
8 inside said fastener opening and having a shank longitudinal axis
9 substantially parallel with said fastener opening longitudinal axis
10 and a shank first end terminating at and integrally joined to a
11 fastener head having a fastener first end wall and a shank second
12 end terminating at a fastener second end wall, a shank side wall
13 substantially parallel with said fastener opening longitudinal axis
14 and extending between said fastener head and said fastener second
15 end wall and having a circumferential channel in said shank side
16 wall extending to said fastener head and opening radially outward
17 from said shank longitudinal axis, said shank side wall
18 additionally having a fastener thread between said circumferential
19 channel and said fastener second end wall;

20 and a sealant delivery passageway having a passageway entry
21 port in said fastener head and a passageway exit port opening into
22 said circumferential channel and extending from said passageway
23 entry port to said passageway exit port;

24 such that a flowable sealant is injectable into said delivery
25 passageway entry port, such that the sealant flows through said
26 sealant delivery passageway and exits through said delivery

1 passageway exit port and flows into and around said circumferential
2 chann 1 and into contact with fastener opening interior surface,
3 creating a circumferential seal between said fastener shank and
4 said fastener opening interior surface.

1 8. The sealable fastener and fastener receiving structure of
2 claim 7, wherein said sealant delivery passageway is a radial notch
3 in said fastener head.

1 9. A method of securing a sealable fastener into a fastener
2 receiving structure comprising a fastener opening with a fastener
3 opening longitudinal axis and a fastener opening interior surface
4 substantially parallel with said fastener opening longitudinal
5 axis; said sealable fastener comprising a fastener shank having a
6 shank longitudinal axis substantially parallel with said fastener
7 opening longitudinal axis and a shank first end terminating at and
8 integrally joined to a fastener head having a fastener first end
9 wall and a shank second end terminating at a fastener second end
10 wall, a shank side wall substantially parallel with said fastener
11 opening longitudinal axis and extending between said fastener head
12 and said fastener second end wall and having a circumferential
13 channel in said shank side wall extending to said fastener head and
14 opening radially outward from said shank longitudinal axis, said
15 shank side wall additionally having a fastener thread between said
16 circumferential channel and said fastener second end wall; and a
17 sealant delivery passageway having a passageway entry port in said
18 fastener head and a passageway exit port opening into said
19 circumferential channel and extending from said passageway entry
20 port to said passageway exit port; said method comprising the steps
21 of:

22 inserting said shank second end into said fastener opening;
23 rotating said fastener such that said fastener shank advances
24 into said fastener opening until said fastener head abuts said
25 fastener receiving structure;
26 injecting a flowable sealant into said delivery passageway

1 entry port;
2 and driving said sealant through said sealant delivery
3 passageway and through said delivery passageway exit port and into
4 and around said circumferential channel and into circumferential
5 sealing contact with said fastener opening interior surface.